

**Baltimore Harbor TMDL Stakeholder Advisory Group (SAG)
May 7, 2002 Meeting Minutes**

**Living Classrooms Foundation
Baltimore, Maryland**

Welcome, Introductions and Announcements:

MDE's George Harmon welcomed everyone to the Baltimore Harbor Total Maximum Daily Load (TMDL) Stakeholder Advisory Group (SAG) meeting. Following George's introductory statement Fran Flanigan reviewed the agenda and set the stage for the meeting.

Topics Raised during opening discussions

Q: Is there sufficient interest to convene a technical group to discuss and review the models being developed by MDE and its contractors?

A: Yes, enough interest exists. MDE will move forward with establishing a group to provide interested parties an opportunity to review the modeling work.

Q: Are the comments to the draft 303(d) list available on the web?

A: Not currently, MDE is currently addressing comments. A comment response document will be developed and sent directly to those who submitted comments. In addition, the comments will be compiled and released with the final document. However, if someone is interested in receiving the comments prior to the final release, a copy can be made upon request. Contact Matt Rowe at 410-631-3578

Discussion of Mission Statement

"The mission of the Baltimore Harbor TMDL Stakeholder Advisory Group is to provide a forum for stakeholders to review, discuss and make recommendations to MDE on the technical, scientific, public health, economic and public policy issues surrounding the development of the Harbor TMDLs."

No edits were suggested to the mission statement; a bit of confusion regarding the inclusion of the term 'public health' was clarified. It will be retained in the mission statement. **Based on the discussion, the above statement will be considered the mission statement of this group.**

Presentations

Overview of Harbor circulation patterns/Why use models (Joel Baker)

- ❖ Introduction to the unique 3 layer circulation pattern in the harbor
- ❖ Discussion on modeling uncertainty
- ❖ Relationship between daily loads and endpoint concentrations
- ❖ Overview of challenges faced in modeling and managing the harbor

Questions based on presentation:

Q: (Beth McGee) - What influence do tides have on the Harbor?

A: (Joel Baker) - Less important than you would think. Tides are observable in the harbor, but their role in mixing and transport are minor relative to wind driven currents.

Q: (Rich Hersey) - How does water running off the land surface influence the circulation pattern? What is the controlling dynamic?

A: (Joel Baker) - Water that comes off the land surface is warmer and less saline than that found in the Harbor; therefore it will spread across the surface of the more saline water

Q: (Cece Donovan) - How strong is the salinity gradient in the harbor?

A: (Joel Baker) - Very strong – the deep channel in the harbor serves as a conduit allowing high salinity water to come up into the Harbor under less saline water

- Action item: Provide reference for Boicourt paper.

A Hydrodynamic Study of the Baltimore Harbor System, Observations on the Circulation and mixing in Baltimore Harbor., William Boicourt, Peter Olson., 1982.

Toxics Modeling Update (Miao-Li Chang)

- ❖ Harbor Impairments
- ❖ Modeling process
- ❖ Current status
- ❖ Future Actions

Q: (Cece Donovan) - What is the source of the bathymetry data used in the sediment/hydrodynamic model? How old is the data?

A: (Miao-Li Chang) – MDE did not conduct a specific bathymetric study for the modeling effort, the agency used available NOAA data. The data used was from chart no. 12278 and 12281 corrected to March 19, 1993, North American Datum, 1983 (WGS 1984). The survey was conducted in January 1993.

(Cece Donovan) – the USACE is conducting a bathymetric study within segments of the harbor for an anchorage study – MDE will contact USACE to investigate the potential utility of the data alluded to.

Q: (Steve Dyer) – Why is there data for only 4, one month periods? And, why is the data from May of 1995 several years apart from the other data used (99/00)?

A: (Miao-Li Chang /Joel Baker) – We tried to select and collect data in months that represent critical conditions (high flow and low flow) and seasonal variations (Winter, Summer, Spring and Fall). The 1995 data was generated from a previous study. Even

though it is older, it is considered to be of sufficient quality to be included in the calibration set

Q: (Bill Ball) Is there a relationship between the Toxic Box Model and the 'CHARM Model'?

A: (Miao-Li Chang) – The 'CHARM Model' is actually several models that are used together – the hydrodynamic/sediment transport model and the toxic box model are part of the modeling effort associated with the CHARM study

(Joel Baker) The Toxic Box model integrates the hydrodynamic/sediment transport model – but using a coarser grid scale. Resource constraints led to this decision

Q: (Bill Rue) – Are reports being developed that explain the data being used to develop and calibrate the models being used? If so, will they be made available for the SAG to review?

A: (Miao-Li Chang) –Yes, reports are being or will be developed. Are you speaking about the watershed model specifically or all of the models?

(Bill Rue) – All of the models

(Miao-Li Chang) – The watershed report is almost complete and can be made available for review once it is finished. The final TMDL report won't be available until the end of next year. The point source data report is also near completion – it could be made available to the SAG. MDE could schedule a meeting to present the detailed modeling results.

(Bill Rue) – A meeting is a good idea, however, a copy of a report to review would be helpful. This would allow time to review, in depth, what data was used, how the models calibrate to that data, and whether or not the models reflect what is happening out in the harbor.

Since the agency will ultimately develop point and nonpoint source load allocations – it is important for people to evaluate whether or not those loads are appropriate. The best way I know to evaluate whether they are appropriate or not is to look at; how the modeling was done, what data went into the modeling, and do the models represent what we see happening in the environment. This is done not in a meeting but with a thorough evaluation of the information and models used to generate the final loads.

(Miao-Li Chang) – MDE will work to address this issue – we will need to discuss how and when the data can be made available for review and when and how to present the modeling information. As a start the watershed modeling information can be made available soon.

Q: (Cece Donovan) – How is MDE collecting and using Baltimore City nonpoint source data – given that there are many facilities have stormwater discharges to the harbor? How does a facility know whether or not their stormwater outflow has been captured in the data collection process?

A: (Bill Stack) – The city has a comprehensive network of monitoring stations on the major tributaries into the harbor, this covers the majority of the area that drains into the harbor. What we do not have data on is the direct drainage component. In terms of the watershed area, the city and county databases collect a good amount of data; what may be missing is hot spot information from specific sites or streets.

(Miao-Li Chang) – MDE has worked with city and counties closely on using all available data. Also, the potential missing hot spot data is likely not significant to overall water quality in the Harbor since the potential areas are small relative to the size of the watershed.

Q: (John Botts) – What is the net flux out of the harbor and how long does it take to occur?

A: (Joel Baker) – In terms of flow – the outflow/inflow is highly dependent on the magnitude and duration of rain into the system.

(Harry Wang) – The flux of water at the mouth of the harbor can be calculated based on the hydrodynamic model

(Joel Baker) – There is no single answer to the question, the flux of contaminants from the harbor depends on 1) the location of the loading point, 2) whether the contaminant is dissolved or sorbed to particles, and 3) the hydrology – including freshwater inputs and wind stress.

Q: (Beth McGee) – Has sediment coring been conducted to assess the changes to the sediment of the harbor over time?

A: (Joel Baker) – We have tried, but due to mixing it is difficult to develop a good chronology of the harbor sediments. The issue with sediments is that the response times in sediments are more along the lines of years and decades – not days or weeks.

Q: (John Botts) – Given the lag time in responses within sediments, how is MDE addressing this in the development of the TMDLs?

A: (Miao-Li Chang) – It is a potential scenario that MDE has discussed. However, it will need to be considered more thoroughly in future scenario development discussions. Today is the beginning of the process in which MDE would like to gain input from the SAG regarding scenarios, realizing that we cannot run all scenarios due to limited resources

Action items:

- Provide update on toxics modeling at next meeting
- Look at ways to disseminate data used in modeling
- Develop modeling review subgroup – convene meeting in near future
- Contact USACE regarding bathymetric data

Nutrients Modeling Update (Miao-Li Chang)

- ❖ Harbor Impairments
- ❖ Modeling process
- ❖ Current status
- ❖ Future Actions

Q: (John Botts) Why did MDE use SWMM for one watershed loading model and HSPF for another?

A: (Miao-Li Chang) – HSPF is the model used by the Chesapeake Bay Program for nutrient non-point source loads, therefore we used the same type of model for consistency with nutrient estimates. For SWMM, it is the model used by both Baltimore City and County to estimate nonpoint source loads of metals. Given this, MDE used the existing city and county data to develop this model for metals.

Q: (John Botts) – Who is on the external review panel for the models?

A: (Miao-Li Chang) – MDE presented the model to Baltimore City, Baltimore County, Anne Arundel County, Howard County, EPA Chesapeake Bay Program and major point sources (e.g. Back River Wastewater Treatment Plant) that contributed data to the effort.

Q: (Fran Flanagan) – Are there people who are interested in conducting a review of the models?

A: (Group) – Yes

Action Item:

- Set up process to review models and data

Miscellaneous Topics (Scott Macomber)

- ❖ Scenario Runs
- ❖ Scale Issues
- ❖ Tributary Team Integration

Q: (Bill Stack) – There is a big difference between estimated loadings into the harbor from the CBP and MDE watershed models. Given this, how is MDE planning on reconciling those differences when developing strategies?

A: (Scott Macomber) – The results from the different modeling efforts are that the Bay Programs estimates are higher than MDEs. Currently, MDE and the CBP are discussing how to address this issue. A solution has not been arrived at to date.

Q: (Bill Stack) – Since the Tributary Strategies will be developed based on the CBP model numbers, and the numbers don't add between the two efforts, we somehow need to figure out how to address the inherent problem

A: (Scott Macomber) – This why MDE is bringing up the topic in this forum. The tributary strategies will be based on the nutrient caps that will be currently under development, and expected later this year. Both the tributary strategies and the TMDLs are due in late 2003. Therefore, we have two parallel processes occurring at the same time. Given that there is an inherent problem, MDE is hoping address it through stakeholder input and discussions with the relevant agencies

(Miao-Li Chang) – MDE has presented the harbor HSPF model to the CBP and they agree that the finer scale model has paid off in developing more accurate estimates of loads into the watershed.

Open Floor Question and Comment Period

Fran Flanigan – The expectation for the new tributary strategies will have a target that is much more difficult to achieve than the previous version. The new strategies will be more than the old 40% reduction idea. Also, tributary strategies have an aura of a voluntary nature, however, since the basis of the new Bay Agreement is to delist the Bay the concept of voluntary is becoming more difficult to maintain given the steps that need to be taken between now and 2010.

Q: (John Botts) – Will it be possible for MDE to the harbor data up on the agency website?

A: (Scott Macomber) – It may be possible, putting data on the Internet is something we will have to discuss back at the office. It is a matter of determining what data and how many resources will be needed to do this and whether or not it is prudent for the agency to do so.

Q: (Duncan Stuart) – Was there any type a solicitation process to invite industry groups and landowners to participate in the TMDL development/ modeling process?

A: (Scott Macomber) – MDE discussed the development of the TMDLs with the Chemistry and Industrial Technology Alliance, as a result many of there members are here today. We also talked with many of the large dischargers in the Harbor directly. In addition we have conducted point source sampling at many of the facilities and also have discussed monthly Discharge Monitoring Report data with the facilities. As result of these efforts they have been made aware that the process is occurring, whether or not they chose to participate actively is another question.

Q: (Greg Kappler) – Has MDE sent invitation letters to join SAG to all NPDES permit holders?

A: (Scott Macomber) – No, MDE sent invitations to all major point source dischargers and industry groups that expressed interest in TMDLs.

(Jim Dieter) – MDE has put reopener clauses in NPDES permits regarding TMDLs, therefore those industries that have received permits in the past few years have been

made aware of the impending TMDLs and the potential for there permits to be reopened and adjusted based on the TMDL allocations.

Recommendation: MDE should consider sending invitations to join SAG to all NPDES permit holders in the harbor watershed.

Q: (Beth McGee) – has MDE determined what the endpoints are for the TMDLs? Is it fish tissue or water quality criteria?

A: (Miao-Li Chang) – The endpoints are being developed right now, we are using the all the data that has been collected over the past few years to help us develop the endpoints.

Recommendation: (Bill Stack) – MDE should consider providing an update on the national TMDL program and present what changes are occurring at the national EPA level?

Q: (Fran Flanigan) – Is anyone interested in learning about the new water quality standards that are being developed by the CBP?

A: General acceptance as possible topic for future meeting

Recommendation: (Duncan Stuart) – in the email or website update MDE could put links to EPA websites or whatever is needed to facilitate general information dissemination

Recommendation: (Bill Rue) – Acknowledging that fact that the agency is not ready to act yet, ultimately the process comes down to MDE developing allocations between point source and nonpoint sources. When the time is appropriate, this is an important topic that we would like to hear about, discuss, and have input on.

Recommendation: (John Botts) – MDE may want to consider discussing the statistics and calculations that are going into the development of the sediment and water quality criteria endpoints

Date for Next Meeting: September 10, 2002 – Location TBD